

A Report from the Trenches: Video Preservation
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It is safe to say that you will outlive your videotapes three or four times over. Ten years after the widespread use of home recorders, our video memories are beyond the fading of old kodachromes; some are totally unplayable. Even before the mass logging of personal memories onto videotape, there were the early users of portable video beginning in the late 1960s, whose recordings are now significant cultural artifacts because they provide alternative documents of one of the stormiest American decades. Attitudes about videotape have shifted in the independent media field as well; once valued as a highly ephemeral material and a "non-object," producers now worry about the lifespan of their tapes.

"Video preservation" describes the physical refurbishing of tapes as well as the ethical and aesthetic decisions about what images will become part of history. Re-mastering is a means to achieve an historical record, the content of which is at the heart of current preservation practice. Working for the Video Data Bank (VDB), I have supervised the preservation of the Castelli-Sonnabend collection and coordinated the compilation of 65 early titles for *Surveying the First Decade: Video Art and Alternative Media in the U.S.* I am encouraged by the increased interest in video preservation, yet awareness of the compelling need for preservation needs to grow if we are to save a vital piece of our cultural history.

General Practices

There are as yet no agreed-upon guidelines for video preservation yet, but that hasn't stopped distributors and collectors from going ahead and doing it. (1) Nor should it, since cleaning methods have been tested and verified, and prices have come down. Here are some basic principles of preservation:

1) Transfers (Re-recording). The material to be preserved, often a tape on an obsolete format like 1/2" open reel or 1" type IVC, is played back and re-recorded onto another format that uses available technology and is considered more archivally stable. (2) (By conservator's standards, video is not archival medium because it has not been proven to last for 100 years. So, to conservators, "video preservation" is something of an oxymoron.) Digital tape shows some promise as a preservation medium, especially considering the fact that no information is lost in successive generations (copies from the master tape). Yet since the technology is so new, and constantly developing, it is impossible to predict how long even digital tape will last. (3) Formats once considered standard and relatively stable, like 3/4" U-matic, are finding their days numbered. Ampex has stopped making 3/4" machines, so in 5 or 10 years the decks and repair parts will be hard to come by. Re-mastering onto progressively better formats will continue until a permanent storage medium is found.

2) Cleaning. Tapes are usually cleaned before transferring to remove dust and dirt. There are many methods of cleaning; current practices include "baking" or heating tapes, dry or wet wiping, scraping, and chemical or water baths. The technology is adapted from that used to

clean computer tapes. The concerns are consistency and safety-it is important that the process does not damage the tape. (4)

3) Reference Copies. Before transferring cleaned tapes to the new master, it is advisable to watch a VHS copy of the tape first. This allows you to check its condition and avoid making an expensive new master of a tape that is unusable because of severe drop out or skew problems. If there are other working copies of the tape, the images are compared and checked for improvement.

4) Two "Masters." The need for a dedicated master that is never played, only rewound periodically, is clear. In the past, one master was struck from the source, and was then sent out for dubs or used as a viewing copy. Now, 10 years later, those masters are badly degraded from excessive use and exposure to changing environmental conditions. Having two masters, one a dedicated or archival master and the other a preservation dubmaster, protects your preservation investment.

5) Cataloging. Preservation is not complete without the creation of clear, accessible records of what work was done, where, what source was used, and the content and condition of the tape. Ideally these records (and the terms used) would be standardized from archive to archive, and be accessible to other organizations. (5)

6) Storage: While the need for proper storage is well documented, few independent media centers have the money to establish climate-controlled storage. (5) The Museum of Modern Art has recently developed such a facility for their considerable videotape and film holdings, but small and mid-sized institutions cannot afford their own facilities nor pay an independent facility to store tapes properly. There are preventative measures that these institutions can enact, however, such as having two masters as mentioned above, storing tapes upright and not on their side, air-conditioning the space where tapes and machines are kept, and avoiding extreme temperature/humidity changes by limiting the number of times a master tape is shipped.

The practices and methodologies of preservation need further refinement, and media independents should enlist the help of professional conservators, librarians, and archivists. Toward this goal, the "Playback 1996" conference at the San Francisco Museum of Modern Art, March 29-30 (organized by Bay Area Video Coalition (BAVC) and New York City's Media Alliance), gathered people from the conservation and media arts fields to begin a shared discussion on a range of preservation topics. Clearly, the independent media field can benefit from networking with groups like the Association of Moving Image Archivists and American Institute of Conservators, to share experience and build support for video preservation in related fields.

Weird Science

Video preservation is not only an inexact science, at times it is almost schizophrenic. In general, each tape marked for preservation opens up a completely different can of worms, technically, aesthetically, and ethically. Just because two tapes are stored side-by-side on a shelf does not mean they will be in the same condition when played. Problems in playback can

be the result of a number of factors, including intrinsic production values and the quality of the video signal as first recorded. The first generation of portable 1/2" open reel cameras was a bit eccentric; different cameras generated slightly different video signals and the image produced was low resolution. Some early experimenters were deliberately altering the video signal to produce special effects. Tapes were reused over and over during an era that championed process over product. There were few character generators in the 1970s so most tapes lack internal titles. Early editing techniques involved literally cutting and pasting the tape together which creates a "glitch" (temporary loss of video and audio). In addition, companies experimented with the chemical and physical composition of tape stock in the early days, and some compositions have held up better than others.

The second biggest factor concerns the conditions under which tapes are stored-temperature, humidity, horizontal or vertical orientation, and condition of the wind (how the tape is wound around its spindles). Humidity is probably the worst culprit as it produces changes in the tape's chemical composition. Storing a tape on its side causes the successive winds to separate and causes edge damage. Drop-out is caused by bits of the magnetic coating flaking off the polyester backing of the tape, and means an irreplaceable loss of video information. Some problems such as bad skew (a result of tape stretching) can be fixed in playback by stabilizing the signal through a time-base corrector (TBC).

Another consideration is that modern playback equipment does not process video signals in the same way as older machines do. For example, it is generally accepted that old 3/4" tapes play back better on old 3/4" decks. A former 3M technician told me that the older decks have different skew and time-code allowances, and can compensate better for old, slightly warped tape.(6) Preservation techniques are developing with each tape that is preserved.

Aesthetic and Ethical Issues

Beyond the technical, there are other complications that fall into a more gray area. For example, the VDB distributes a copy of Robert Morris' videotape *Exchange* (1973) that had been preserved in the mid-1980s, probably from a 3/4" copy. (Since no records were kept, this is just an educated guess; 1/2" open reel decks are hard to come by, and it would be easier to use a 3/4" copy, plus the VDB has both a 3/4" and 1/2" open reel copy.) In 1994, the 1/2" open reel copy of the title was cleaned and found to be four minutes longer than the previous version. On closer inspection, running the tapes on side by side monitors, it appears that the two tapes are completely different edits of the same source material. After conferring with the artist, and considering that one tape has a natural ending and the other cuts off abruptly, the VDB decided to distribute the newly-recovered version of the tape. The shorter version may have been the result of a mistake made in the transfer of the tape decades ago; a mistake that was copied over and over again.

In another example, the VDB had a copy of Vito Acconci's *Undertone* (1972) that was very gray and had a bad flicker. When the 1/2" open reel copy was cleaned, the resulting tape looked beautiful, except for a four-minute glitch in the middle of the tape. The question was whether to cut out the blank part of the tape, creating an edit in a piece that originally has no edits, or ask viewers to sit through the break, both unsavory options. Luckily, another 1/2" open reel, nearly perfect copy with no glitch was found.

With more preservation work being done, problems like this will arise over and over again, especially for distributors. Do you leave in segments of the tape that are unwatchable because of bad skew, or do you omit them? Do you boost sound levels when they are inaudible, or adjust the gain so the image is not too hot? Should adjustments be made to the master or just distribution dubs? The ethical (and legal) considerations around the issue of copyright are another rat's nest of problems. If the tape does not have a copyright, are the producers still to be paid a royalty? And when the original producers have vanished, disbanded, or died, what then?

A larger discussion of ethics has to incorporate the process of selection. Perhaps it is because no one wants to admit that their preferences will determine what gets saved, that they have the power to deem this artist's videotape as more culturally significant than another. Few are comfortable making these assertions today now that, in postmodern fashion, we are all lost in the sauce of a relativized history. The process of selection seems hopelessly ideological. On a comforting note, the issues surrounding video preservation are no different from the foibles and follies of every preservation effort, from art history to archeology. There will be mistakes and omissions, and hopefully enough interested scholars to correct them. Selection will occur both consciously (by curators, conservators, funders, distributors, etc.) and by default (the can of beer that spilled on a tape in 1975).

Videotape is a material dependent upon technology for access to its contents. Having an archive of tapes that are unplayable is as useful as a library of books that won't open. Without a doubt, the physical condition of the tape will determine whether it can be saved, regardless of the value of its contents. The tape may be labeled "The Secret of Eternal Life and a Conversation with God Himself," but if it has congealed into a hockey puck, no amount of effort is going to unlock that material. Most archivists, curators, and conservators face decisions a bit more subtle than this; given a large number of one-of-a-kind tapes that seem to be in acceptable condition, how does a conservator establish priorities for preservation? (7)

No single prescription can be made in this regard; priorities are hopefully going to be as various as the types of collections and number of people doing preservation work. Priorities will be determined in large part by the values and objectives each organization defines for itself, as well as the resources that can be mustered. In putting together *Surveying the First Decade*, the VDB preserved several tapes including: a 1976 performance piece that bridges minimalist music and early computer video, a 1973 prison community day speech by a woman expounding the ideas of Marcus Garvey, and a 1971 interview with a member of the negotiating team sent in during the Attica prison riots. One stumbling block in our research was that many collections are uncataloged and unwatchable without preserving them first. These collections are still valuable; present use does not indicate future value.

Individuals and institutions should right now be preserving those tapes that are important to them. Only in this way can a broad selection of culturally significant materials be saved, and the alternative visions of early videomakers be assured of reaching the next generation. Video as a practice began when the distinction between high art and mass culture was coming under attack from Pop Art, Process Art, Happenings, performance, etc. Radical art-making meant

radical politics and vice versa. The immediacy of video makes for compelling historical study and has the potential to radically alter the stories we tell ourselves about our past.

It is impossible to predict the course of future scholarship and every effort should be made to preserve a broad cross-section of video recordings. Skeptics such as myself would say that there will never be enough money to preserve everything. Even if prioritized lists are made and a few tapes preserved, soon the money will run out and scores of tapes will continue to gather dust. For this reason, funders may exert considerable influence over what gets preserved. For example, there may be some cash available for video art preservation, but nothing to save community work, or vice versa. Organizations will do some of the discriminating themselves—they will only pitch ideas that appeal to a funder's priorities. The development of preservation standards can help build confidence and awareness among funders, but standards can be used to cut the other way as well, excluding a large number of small to mid-sized organizations and their prized collections. (8)

There are other funding options. Given the cultural currency that moving images enjoy, some collections could, for example, be converted into working image banks. Preservation work could be scheduled in phases to avoid a huge outlay of initial funding. Distribution income from tapes that have obvious market appeal can fund the preservation of significant tapes that are not so easily accessible. A different approach that stresses networking and pooling resources has been developed and implemented by Media Alliance. The models they have put forward in *Meeting the Challenges of Video Preservation* (1996) encourage cooperative cataloging as well as joint solutions to the costly problem of storage.

In order to reduce the cost and uncertainty of preservation, an approach mentioned at the "Playback" conference was to influence manufacturers to produce longer lasting videotape and to release details on the composition of their tapes. If the consumer market was sensitized to the problem of videotape degeneration, it could exert major pressure on the industry.

Conclusion

Like the beginning of an old joke, there is good news and bad news. The bad news is that the funding situation today is so dire that most media non-profits are just barely keeping their heads above water, let alone thinking about preservation. Their collections are falling into greater decay, being discarded completely, or handed off to libraries and universities that do not have the resources for proper collection development either. The clock is ticking, tapes are getting older and stickier, and obsolete machines are succumbing to wear and tear.

The good news is that there is much more interest in the subject of video preservation than even four years ago, both from inside the field and from other fields, such as conservation and libraries. The "Playback" conference was hopeful in that it expanded the discussion; BAVC seems committed to such a dialogue and plans to publish the conference proceedings. The work of organizations like Media Alliance in networking New York State archives sets an important precedent for how to build partnerships and share resources. Some important funders, like the Andy Warhol Foundation and the Getty Grant Program (both of whom supported the "Playback" conference) have expressed interest.

In March 1996, the Library of Congress held hearings in New York City, Washington DC, and Los Angeles on the issue of magnetic media preservation. In years past, the Library of Congress has been less than receptive to discussions of video preservation, so this marks a significant shift in their position. They interviewed scholars, independent media-makers, educators, and video and television preservation specialists in order to establish a comprehensive national video and television preservation program. A report of the findings will be published, and may have major impact in re-organizing working relationships between technicians, archivists, artists, and funders.

Given the rough-and-ready nature of early video and its aspirations to challenge mainstream media by placing production technology in the hands of the people, it may seem ironic that so much attention is going toward preserving the past, instead of making new media ourselves. Preservation practice should promote, not hinder, the effort to make this material once more accessible to the widest audience possible, instead of remaining hermetically sealed in a vault. As we face the latest technological revolution of computer networks, there are important parallels between our situation and the advent of consumer-grade video technology in the late 1960s. The rhetoric is nearly identical; our hopes for the new technology can perhaps be informed by the generation that first dreamed of revolutionizing television.⁹

Texts consulted:

Boyle, Deirdre. Video Preservation: Securing the Future of the Past. New York: Media Alliance, 1993.

Hubbard, Jim. Meeting the Challenges of Video Preservation: A Progress Report on Initiatives Within the Media Arts Field. New York: Media Alliance, 1996.

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Endnotes

1. In the independent media field, preservation projects have been initiated by the Video Data Bank and Electronic Arts Intermix (both distribution collections), the Walker Museum (performance documentation), the Andy Warhol Foundation (Warhol's films and videotapes), Anthology Film Archive (a smattering of tapes), a collaboration between Intermedia Arts Minnesota and the Minnesota Historical Society (University Community Video archive) and Eastern Tennessee State University-Archives of Appalachia (Broadside TV archive). The VDB and EAI have been doing on-going preservation work since the mid-1980s. Many more single tapes have been preserved by individuals and organizations.

2. What format to transfer to is perennial question. Debbie Silverfine of NYSCA voiced the most rational approach at Playback 1996, when she said that the format you choose will be determined by your needs and your resources. There is no tape out there that is proven to last forever, or even fifteen years. Right now, digital formats are too expensive for most people. Evelyn Ioschpe, from Fundação IOCHPE, São Paulo, Brazil, however said her group uses laserdisk, primarily because of the humidity problems for magnetic media encountered in a sub-tropical climate. She noted that after a large initial investment, the costs came down.
3. The problem with digital, besides the price, is that heavy disturbances on an analog tape, such as skew or drop out, can overload the allowances on a digital deck and appear as pixelated distortions. This happens when the system does not have enough memory to mask distortions, and the image starts to break down in a pixelated pattern.
4. We did most of our preservation work through BAVC and they use a dry process with a series of blades, slotted grids, cloth wipes, and vacuum chambers to remove dirt from both sides of the tape. Luke Hones of BAVC, who investigated different cleaning methods and technologies, feels this process has been consistently successful, kept costs low, and has no discernible ill effects on the tape.
4. NAMID (National Moving Image Database) a project of the National Center for Film and Video Preservation, has undertaken, to some degree, the integration of video records into its catalog of moving images created as a USMARC-compatible database. USMARC is the "machine-readable" format with specific field categories and codes that all libraries use. Like the Dewey decimal system, it means that entries and term definitions are standardized across the entire system. There are some problems, however, in integrating video into a descriptive system more suited to film, as well as the lack of education among a wider population about the history and value of video. There is also the complex issue of introducing a highly rigorous cataloging system to non-profit organizations that have traditionally operated on a very different logic.
5. There is no agreement in the preservation field as to the correct temperature and humidity standards to follow. The Society of Motion Picture and Television Engineers (SMPTE) does publish recommended practices and the American National Standards Institute/Audio Engineers Society (ANSI/AES) is expected to issue a report later this year.
6. Not only do tapes need to be saved, the machines that play them need the same attention. Ralph Hocking has started a repository of older machines, both manufactured and hand-built tools, at the Experimental Television Center in Owego, NY.
7. Jim Lindner has written a piece, cited above, to aid in the setting of preservation priorities. While this article does explain technical considerations, his model does not apply to media arts institutions who have mostly one-of-a-kind tapes in their collection and not enough money to preserve more than a handful.
8. In meetings prior to the Library of Congress hearings, there has been discussion about requiring facilities to have climate controlled storage before being considered an archive. The upshot of such a requirement is that real estate becomes the focus, not collections of videotape.

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